

Title (en)

TRANSPORTABLE LONG-LIVED HYPERPOLARIZED SAMPLES

Title (de)

TRANSPORTABLE LANGLEBIGE HYPERPOLARISIERTE PROBEN

Title (fr)

ÉCHANTILLONS TRANSPORTABLES HYPERPOLARISÉS À LONGUE VIE

Publication

EP 3081952 B1 20181226 (EN)

Application

EP 15164035 A 20150417

Priority

EP 15164035 A 20150417

Abstract (en)

[origin: EP3081952A1] Proposed is a method for the preparation of a hyperpolarized solution of molecules of interest. The proposed method comprises the following steps: 1) suspending or coating of a micro-particulate matrix, which is crystalline or a non-porous aggregate, and which e.g. is comprising or consisting of the molecules of interest, with a glass-forming solution or suspension e.g. comprising a DNP-suitable polarizing agent at a first temperature at which the micro-particulate matrix is not dissolving; 2) lowering the temperature to a value of at most 15 K leading to a frozen glassy DNP sample; 3) transferring the electron spin polarization of the polarizing agent in the glassy DNP sample at this low temperature in a magnetic field of at least 2 T to abundant nuclear spins of the frozen glass-forming solution or suspension and/or the polarizing agent as well as to abundant nuclear spins of the molecules of interest and hetero-nuclear cross-polarization from the abundant nuclear spins at least in the molecules of interest to at least one different nuclear spin type in the molecules of interest; 4) increasing the temperature and dissolving the molecules of interest which are hyperpolarized with respect of the different nuclear spins, in particular for use in a magnetic resonance imaging or nuclear magnetic resonance experiment.

IPC 8 full level

G01R 33/28 (2006.01); **G01R 33/46** (2006.01); **G01R 33/56** (2006.01)

CPC (source: EP US)

A61K 51/121 (2013.01 - US); **G01R 33/282** (2013.01 - EP US); **G01R 33/5601** (2013.01 - EP US); **G01R 33/4608** (2013.01 - EP US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 3081952 A1 20161019; **EP 3081952 B1 20181226**; US 2016306020 A1 20161020

DOCDB simple family (application)

EP 15164035 A 20150417; US 201615099766 A 20160415